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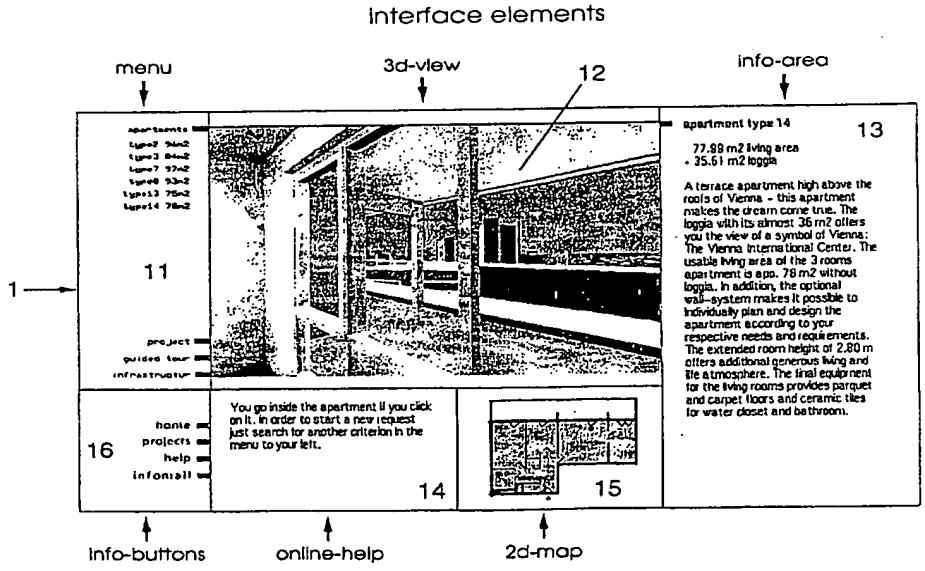

(57) Abstract

A computer program logic for the search and display of information on a screen, with the display screen being divided into several sectors, the first sector (11) containing the search criteria, which may be selected via a control element and at least one additional sector (12, 13) containing the information. The search criteria shown in the first sector (11) refer to the interior of a building, e.g. for residential purposes or use as office; these rooms are shown in a second sector (12) and written information is given in a third sector (13) which refers to the rooms displayed in the second sector (12).

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SEARCH AND DISPLAY OF REAL ESTATE INFORMATION

The present invention relates to a method, which may be implemented on a computer, for the search and display of information on a display screen, with the display screen being divided into several sectors; the first sector contains the search criteria, which may be selected by a control element, and at least one additional sector contains the information.

The present invention is based on a problem of creating a computer program which makes it possible to combine a number of different types of information and make them visible on a screen. The invention solves this problem in such a way that the search criteria shown in the first sector refer to the rooms of a building, e.g. for residential or office purposes, that such rooms are shown in the second sector and that the third sector contains written information referring to the rooms displayed in the second sector.

According to a first aspect of the present invention, there is provided a computer program for the search and display of information on a display screen wherein the computer program is capable, when executed on a computer, of causing the display screen to be divided into plural sectors, the first sector containing the search criteria, which may be selected by a control element and at least one additional sector containing the information, characterised in that the search criteria in the first sector refer to the interior of a building, a view of rooms in the interior of the building is displayed in a second sector and written information referring to the rooms displayed in the second sector is displayed in a third sector .

According to a second aspect of the present invention, there is provided a method of controlling the search and display of information on a display screen comprising dividing the display screen into plural sectors, the first sector containing the search criteria, which may be selected by a control element and at least one additional sector containing the information, characterised in that the search criteria in the first sector refer to the interior of a building, these rooms are displayed in a second sector and a third sector, written information referring to the rooms displayed in the second sector is displayed.

Preferably, the line of sight as well as the viewpoint of the viewer may be changed inside the rooms of the property by adjusting the control element.

Preferably, a fourth sector on the display is provided for, which contains additional search criteria, and a fifth sector exists, which shows the ground plan of the respective property, with the point from where the interior is viewed being indicated.

Preferably, the search criteria also include the exterior of the property, with the outside of the property upon selection, for example by a mouse-click, being displayed together with its neighbourhood in the second sector.

Furthermore, the second sector may provide for markings around which the display may be rotated on a vertical or a horizontal axis, so that the property is displayed in such a way as if the viewer walked around it or from different levels, respectively. In addition, any point in the property displayed may be selected via mouse-click, with the room which is situated at the point being displayed in the second sector.

Finally, the search criteria preferably also include buildings situated in some distance to the property, such as hospitals, schools, official buildings and police stations, which are displayed in the second sector, with the respective information being shown in the third sector.

A computer program which implements the present invention is explained in more detail in the following by way of non-limitative example with reference to the accompanying drawings in which:

Figures 1 to 3 show the display screen which is divided into six sectors for different types of information; and

Figure 4 shows a flowchart from which the transitions between the individual displays can be seen.

The present invention may be implemented by a computer program which is executable on a computer having a display screen. Any suitable computer may be used such as an ordinary personal computer (PC). In this case, the display screen is the monitor of the PC and the control element is the keyboard and/or mouse of the PC. The computer program may be written in any suitable language. When

executed on the computer, the computer program causes the computer to perform a process for the search and display of information on the display screen, as described in detail below. The computer executing the computer program therefore constitutes an apparatus for the search and display of information. The computer program may be stored on a computer program product, for example a disk or other computer usable medium, storing or embodying the code for a program in a form readable by the computer in a conventional manner. The present invention could be implemented in any computing system by appropriate hardware and/or software.

As can be seen from Figure 1, the computer program divides the screen surface into six sectors, 11 to 16, in a first setting. The first sector, 11, shows the menu by which apartments available in a building may be selected via mouse-click, for example, according to their size. Then the second sector, 12, shows a three-dimensional display or other view of the apartment and the third sector, 13, provides information about this apartment. Moreover, a fourth sector, 14, is provided for, which makes it possible to change the point of view from where the room is shown in sector 12. The fifth sector, 15, shows the viewer's point of view. Finally, a sixth sector, 16, is provided for, from which additional information may be obtained, which is described below.

Thus, this program logic makes it possible, by a first step, to show or obtain information, respectively, on apartments in a building which are available for sale or to let.

Subsequently, a second display is shown as in Figure 2, where a first sector, 21, is provided for which will, again, contain the menu. If selected, a second sector, 22, shows the exterior of the building in its neighbourhood in three dimensions. A third sector, 23, again contains information which refers to the respective building. Furthermore, a fourth sector, 24, is provided for, which refers to the fact that the second sector contains several arrow-like markings by which, when selected by mouse-click, the display may be changed. If the first few arrow-like markings, 22a, are selected, the distance between the building and the viewer may be changed. If the second markings, 22b, are selected, the display in this sector may be rotated on a vertical axis, which makes it possible to change it in such a way as if the viewer

walks around the property, so that it may be viewed from all sides together with its neighbourhood.

By selecting the third markings, 22c, the altitude level of the viewer's viewpoint in relation to the building can be adjusted.

If menu 21 is selected, a third display according to Figure 3 may be opened in addition, which likewise contains a first sector, 31, for a menu, a second one, 32, showing a bird's eye view of the property in its neighbourhood and, finally a third sector, 33, containing information about the neighbourhood shown in the second sector, 32.

Figure 4 also shows the settings contained in Figures 1 to 3 including their links. As can be seen therefrom, one can pass from each setting to the next and from each setting to the menu of one of the previous settings in order to obtain further information.

CLAIMS

1. A computer program for the search and display of information on a display screen wherein the computer program is capable, when executed on a computer, of causing the display screen to be divided into plural sectors, the first sector containing the search criteria, which may be selected by a control element and at least one additional sector containing the information, characterised in that the search criteria in the first sector (11) refer to the interior of a building, a view of rooms in the interior of the building is displayed in a second sector (12) and written information referring to the rooms displayed in the second sector is displayed in a third sector (13).

2. A computer program according to claim 1, wherein the line of sight as well as the viewpoint of the viewer inside of the rooms of the property may be changed by adjusting the control element.

3. A computer program according to either one of claims 1 or 2, wherein a fourth sector (14) is provided which contains additional search criteria.

4. A computer program according to any one of the preceding claims, wherein a fifth sector (15) is displayed on the screen, which shows the ground plan of the respective property, with that point from where the rooms are viewed being indicated.

5. A computer program according to any one of the preceding claims, wherein the search criteria also include the exterior of the property, with the exterior of the property being shown together with its neighbourhood in the second sector (22).

6. A computer program according to claim 5,wherein the second sector provides for at least one marking (22a, 22b, 22c) by the selection of which the

distance between the property and the viewer may be changed or the display can be moved vertically or horizontally or rotated about a vertical or horizontal axis, to show the property in a way as if the viewer walks around it or moves to different height levels.

7. A computer program according to either one of claims 5 or 6, wherein any point in the display of the program may be selected, with the respective room situated at that point being displayed in the second sector.

8. A computer program according to any one of the preceding claims, wherein the search criteria also include buildings located in some distance to the property, such as hospitals, schools, official buildings and police stations, which are displayed in the second sector, with the respective information being given in the third sector.

9. A computer program product comprising a computer readable medium storing a computer program according to any one of the preceding claims.

10. A method of controlling the search and display of information on a display screen comprising dividing the display screen into plural sectors, the first sector containing the search criteria, which may be selected by a control element and at least one additional sector containing the information, characterised in that the search criteria in the first sector (11) refer to the interior of a building, these rooms are displayed in a second sector (12) and a third sector (13), written information referring to the rooms displayed in the second sector is displayed.

11. An apparatus for controlling the search and display of information on a display screen comprising dividing the display screen into plural sectors, the first sector containing the search criteria, which may be selected by a control element and at least one additional sector containing the information, characterised in that the search criteria in the first sector (11) refer to the interior of a building, these rooms

are displayed in a second sector (12) and a third sector (13). written information referring to the rooms displayed in the second sector is displayed.

12. A computer program product comprising a computer usable medium having computer readable program code means embodied therein for the search and display of information, the computer readable program code means comprising means for causing a computer to control the display on to the display screen to be divided into plural sectors, of which sectors a first sector contains search criteria relating to the interior of a building, the search criteria being selectable by a control element, a second sector displays a view of rooms in the interior of the building and a third area displays written information referring to the rooms displayed in the second sector.

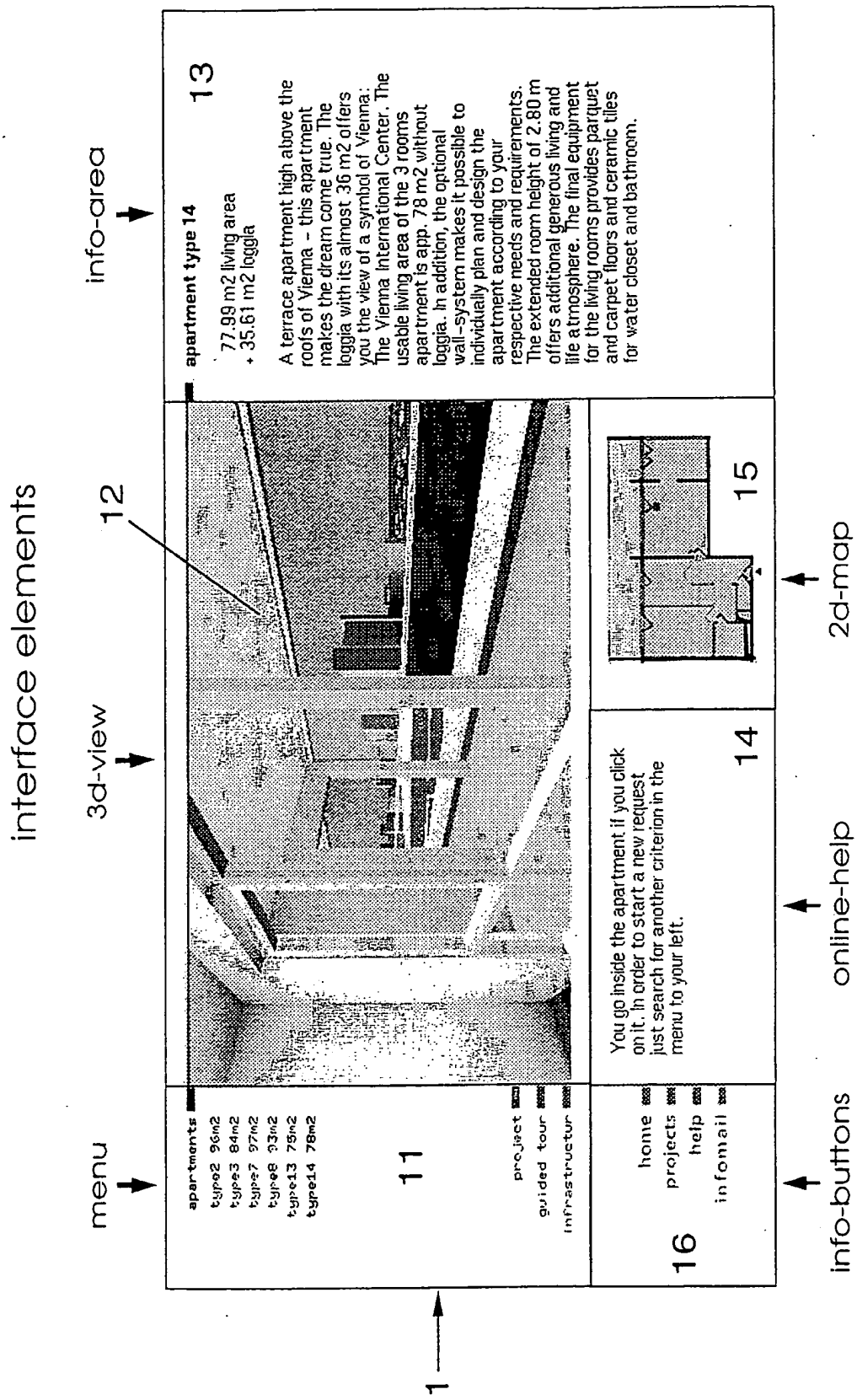
interface elements
menu
3d-view
info-area
info-buttons
online-help
2d-map
1
11
12
13
14
15
16
apartments
type2 96m2
type3 84m2
type7 97m2
type8 93m2
type13 79m2
type14 78m2
project
guided tour
infrastructur
home
projects
help
infomail
apartment type 14
77.99 m2 living area
+ 35.61 m2 loggia
A terrace apartment high above the roofs of Vienna – this apartment makes the dream come true. The loggia with its almost 36 m2 offers you the view of a symbol of Vienna: The Vienna International Center. The usable living area of the 3 rooms apartment is app. 78 m2 without loggia. In addition, the optional wall-system makes it possible to individually plan and design the apartment according to your respective needs and requirements. The extended room height of 2.80 m offers additional generous living and life atmosphere. The final equipment for the living rooms provides parquet and carpet floors and ceramic tiles for water closet and bathroom.
You go inside the apartment. If you click on it. In order to start a new request just search for another criterion in the menu to your left.

Fig. 1

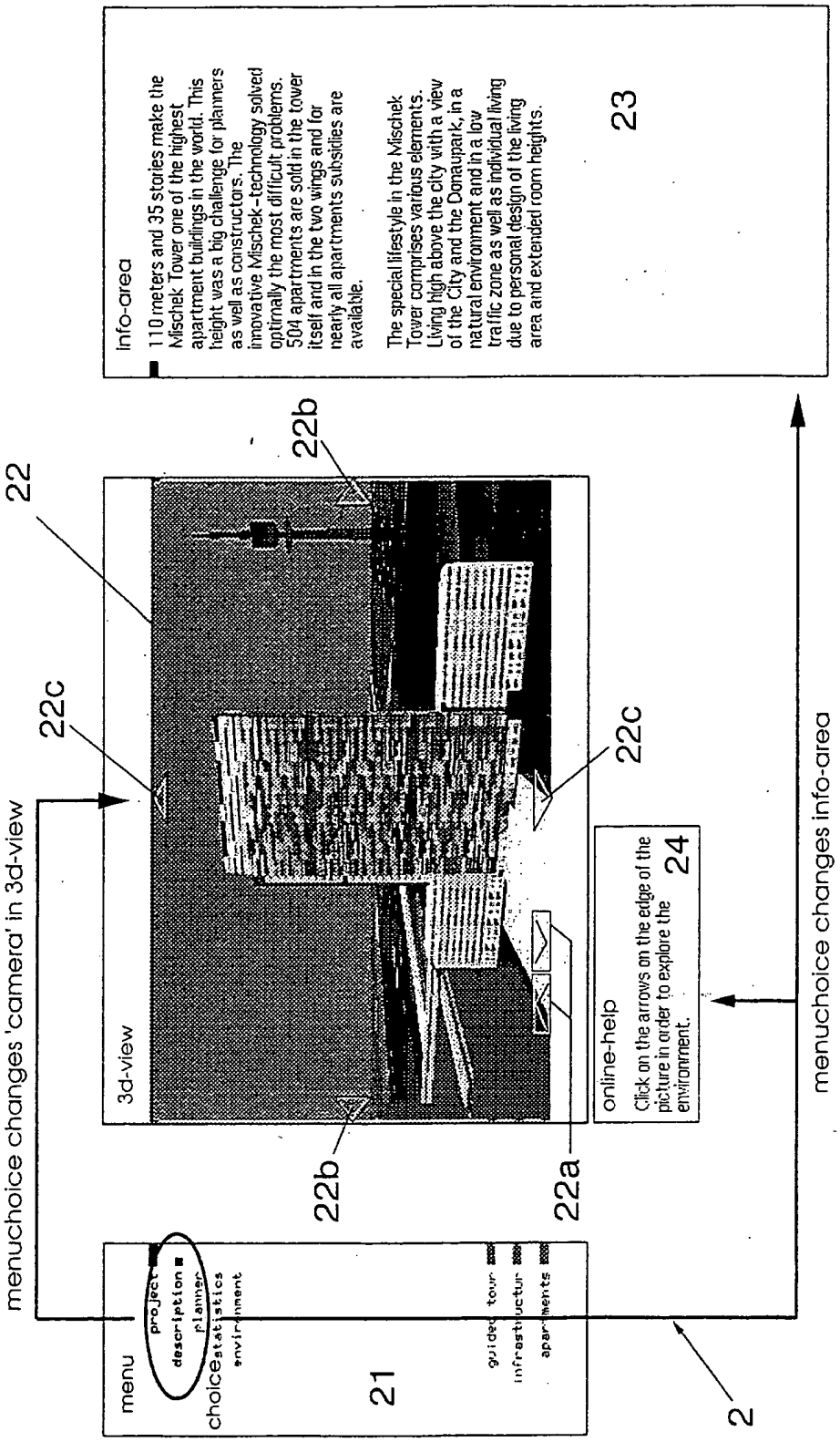
menu
choice
project
description
planner
statistics
environment
21
guided tour
infrastructure
apartments
menuchoice changes 'camera' in 3d-view
2
3d-view
22
22a
22b
22c
online-help
Click on the arrows on the edge of the picture in order to explore the environment.
24
menuchoice changes info-area and online-help
info-area
110 meters and 35 stories make the Mischek Tower one of the highest apartment buildings in the world. This height was a big challenge for planners as well as constructors. The innovative Mischek-technology solved optimally the most difficult problems. 504 apartments are sold in the tower itself and in the two wings and for nearly all apartments subsidies are available.
The special lifestyle in the Mischek Tower comprises various elements. Living high above the city with a view of the City and the Donaupark, in a natural environment and in a low traffic zone as well as individual living due to personal design of the living area and extended room heights.
23

Fig. 2

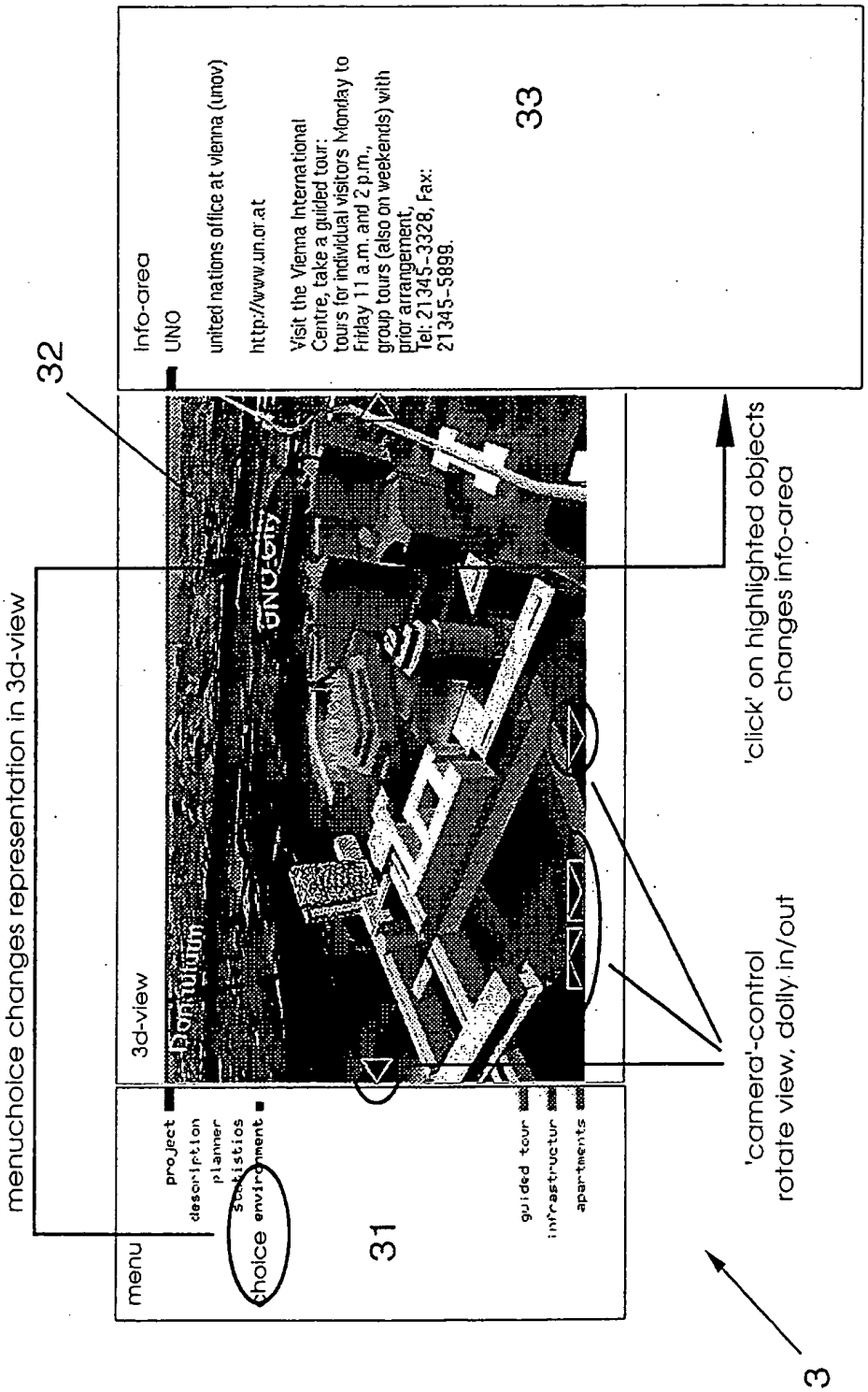
menuchoice changes representation in 3d-view
menu
project description planner statistics
choice environment
31
3d-view
32
guided tour
infrastructur
apartments
'camera'-control
rotate view, dolly in/out
info-area
UNO
united nations office at vienna (unov)
http://www.un.or.at
Visit the Vienna International Centre, take a guided tour: tours for individual visitors Monday to Friday 11 a.m. and 2 p.m., group tours (also on weekends) with prior arrangement, Tel: 21345-3328, Fax: 21345-5899.
33
'click' on highlighted objects changes info-area
3

Fig. 3

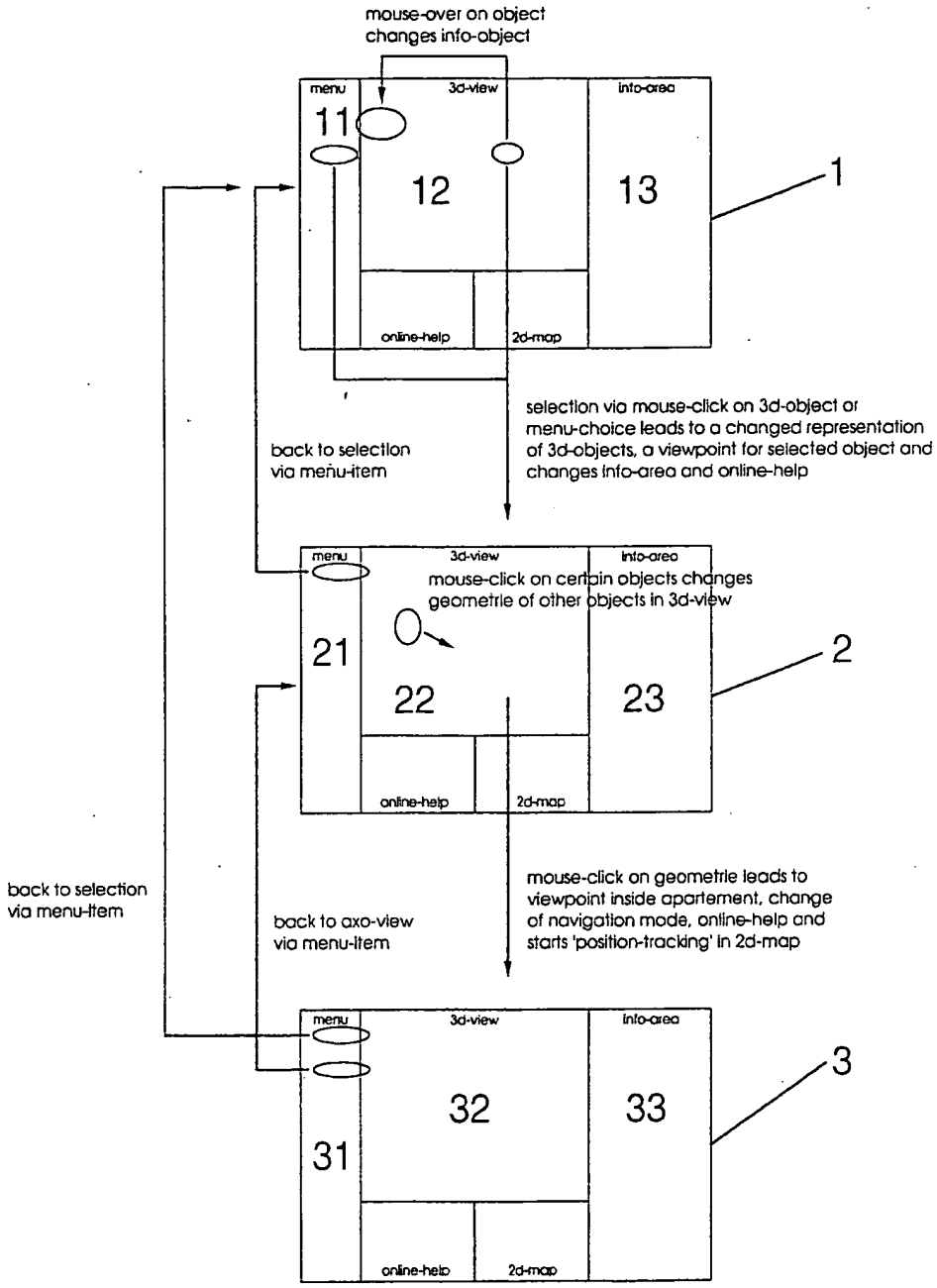
mouse-over on object
changes info-object
menu
3d-view
info-area
11
12
13
1
online-help
2d-map
selection via mouse-click on 3d-object or
menu-choice leads to a changed representation
of 3d-objects, a viewpoint for selected object and
changes info-area and online-help
back to selection
via menu-item
menu
3d-view
info-area
mouse-click on certain objects changes
geometrie of other objects in 3d-view
21
22
23
2
online-help
2d-map
back to selection
via menu-item
mouse-click on geometrie leads to
viewpoint inside apartement, change
of navigation mode, online-help and
starts 'position-tracking' in 2d-map
back to axo-view
via menu-item
menu
3d-view
info-area
32
33
31
3
online-help
2d-map

Fig. 4

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 00/02625

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G06F17/60

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 781 773 A (VANDERPOOL THOMAS R ET AL) 14 July 1998 (1998-07-14) abstract; figures 10-12 column 2, line 11 -column 3, line 44	1,3,9-12
A	US 5 794 216 A (BROWN TIMOTHY ROBERT) 11 August 1998 (1998-08-11) abstract; figures 19,20 column 1, line 51 -column 2, line 18	1,9-12

-/—

[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
21 August 2000	01/09/2000

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INTERNATIONAL SEARCH REPORT

	International Application No PCT/EP 00/02625

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WILLIAMSON C ET AL: "THE DYNAMIC HOME FINDER: EVALUATING DYNAMIC QUERIES IN A REAL- ESTATE INFORMATION EXPLORATION SYSTEM" SIGIR FORUM,US,ASSOCIATION FOR COMPUTING MACHINERY, NEW YORK, 21 June 1992 (1992-06-21), pages 338-346, XP000578799 the whole document	1,9-12
A	PATENT ABSTRACTS OF JAPAN vol. 1997, no. 10, 31 October 1997 (1997-10-31) & JP 09 147020 A (CSK CORP), 6 June 1997 (1997-06-06) abstract	1,9-12

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/EP 00/02625

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5781773 A	14-07-1998	WO 9636003 A	14-11-1996
US 5794216 A	11-08-1998	NONE	
JP 09147020 A	06-06-1997	NONE	